FLUKE networks

NETWORKSUPERVISION™

DTX CableAnalyzer™ significantly reduces your total time to certify.

The new DTX CableAnalyzer™ Series from Fluke Networks is the testing platform for today – and tomorrow. This revolutionary new platform significantly reduces total time to certify by improving every aspect of the testing process. It all starts with a Cat 6 Autotest time that's three times faster than other testers – and fiber testing that's five times faster. But that's just the beginning. DTX also gives you Level IV Accuracy, unmatched troubleshooting diagnostics, 900 MHz of testing bandwidth, 12-hour battery life, and nearly instant setup and reporting. With the DTX, you're ready for whatever the world throws at you – today and tomorrow.

DTX CableAnalyzer™

It's all about time.

FLUKE networks

The DTX advantage: speed and accuracy.

The DTX CableAnalyzer's powerful features, speed, and superior accuracy make your crews more efficient and productive – and you can see the results on the bottom line. It's all about time – and no other tester delivers like DTX.

- **Increase productivity from day one.** Intuitive interface means your techs spend less time in training and more time testing.
- **Zero to certified in 12 seconds.** This unheard-of Cat 6 test speed lets you move from link to link three times faster than with previous testers.
- **Level IV Accuracy.** Get the most accurate test results in the shortest possible time.
- **900 MHz frequency range.** Prepares you for future applications, such as 10 Gigabit Ethernet, Class F and CATV.
- **Advanced time-saving diagnostics.** Pinpoints the location of a failure and is the only tester that suggests corrective action, saving trouble-shooting time.
- **Record-fast fiber certification.** Certifies a pair of fibers in 12 seconds with DTX singlemode and multimode fiber modules.
- **12-hour battery life.** Gives you the power to complete any job.
- **Save time managing results.** From setup to reporting, LinkWare™ Cable Test Management Software's simple user interface and time-saving features increase productivity.

Significantly reduces total time to certify.

The DTX Digital CableAnalyzer Series gives you a complete solution that streamlines every aspect of the certification job – from setup, to record-fast testing and troubleshooting, to reporting results to the customer. All told, DTX can save you considerable time and money – up to four hours a day.

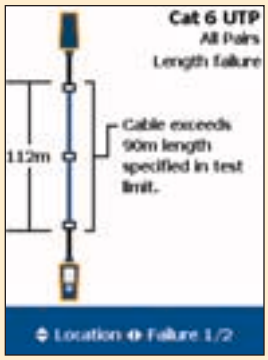
Cat 6 certification in 12 seconds

The DTX-1200 and DTX-1800 perform Cat 6 certification tests in just 12 seconds – in full compliance with industry standards and with superior accuracy. That's *three times faster* than existing testers. This incredible speed means you can test up to 170 more links in an eight-hour shift.

Troubleshoot faults twice as fast

When a link fails, the DTX Series provides quick, easy-to-understand directions to identify the point of failure (distance from the tester) and the possible reason(s) for the failure.

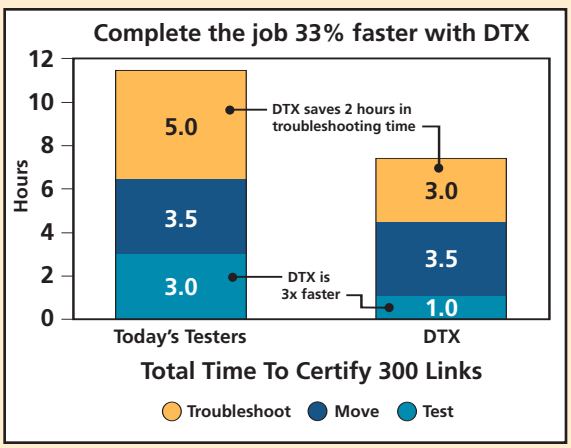
These directions not only tell you the problem, but also *identify corrective actions* your test technicians can take to solve the problem quickly – all without having to consult the project manager. Instead of spending time executing trial and error corrections – and re-testing to find out



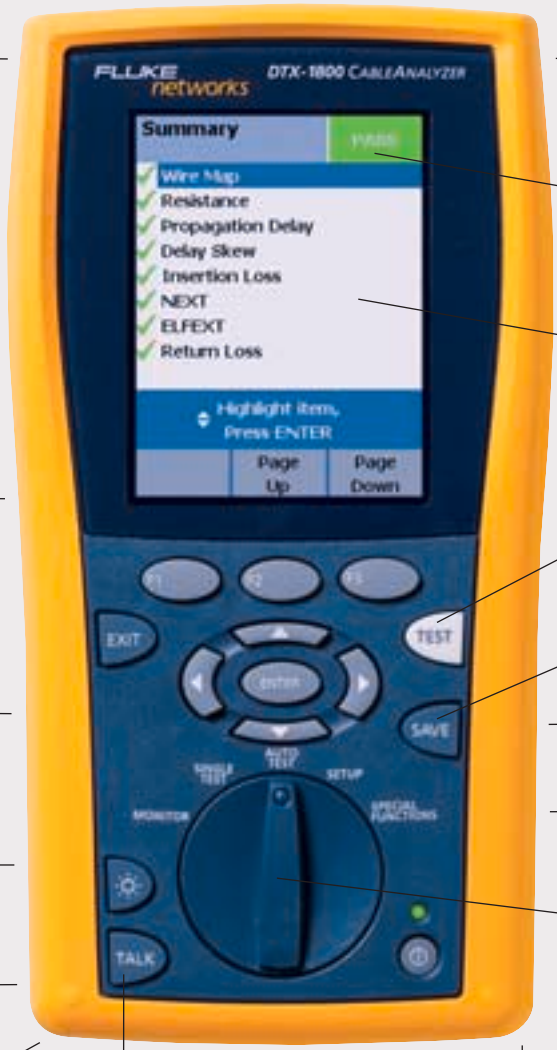
whether the problem has been resolved – the technician knows exactly where to look and what to do to fix the failing link. *Even if only two percent of the cables certified in one shift fail Autotest, you'll save as much as two hours of labor time per day of certifying.*

Fast even when you're not testing

The DTX Series isn't just a faster way to test. It cuts setup and reporting times. Its ease-of-use lowers training time. Extended battery life means you can do more on a single charge. And a bright color display, ample memory, and built-in talk set all contribute to overall productivity while enhancing the user experience. **This all adds up to save you time and money every day.**



The DTX CableAnalzyer: a visionary approach to testing.



Level IV Accuracy – Exceeds spec requirements for Cat 6 and beyond.

Fiber ready at all times – optional fiber modules fit snug and protected in DTX module cavity.

Advanced time-saving diagnostics pinpoint problems anywhere on the link and suggest corrective action to help you get the job done on time.

Field tough Permanent Link Adapter delivers repeatable accuracy and Cat 6 interoperability.

12-hour battery life – Lithium ion battery provides full day of testing.

Internal memory stores up to 250 graphical Cat 6 test results or up to 2000 reports in text format.

Memory Card for instant data hand-off – each multiple of 16 MB stores 300 Cat 6 graphical link test results.

Talk feature saves time by allowing you to communicate with your test partner at the other end of the link over both copper and fiber.

Rugged overmold bonded to case stands up to tough field conditions.

Bandwidth support to 900 MHz – supports video distribution, Class F, and 10 Gigabit Ethernet.

12-second Cat 6 Autotest – speeds you through testing three times faster than any other tester.

Large color display with bright backlight for easy viewing.

12-second fiber Autotest – performs dual fiber, dual-wavelength certification test.

Save full graphical test results to Fluke Networks' LinkWare PC software.

USB Port for high-speed test data downloads.

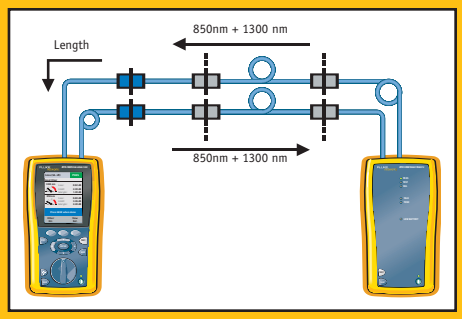
Portable, lightweight ergonomic design for easy field use.

Rotary knob makes learning easy and operation simple – you always know what test mode is selected.

Get more done in less time with fiber on-board.

Record-fast fiber certification

The DTX fiber modules accelerate testing through exclusive technology and an easy-to-use interface. Press the Autotest button and you get standards compliant certification automatically – test two fibers, each at two wavelengths, measure length, and determine the pass or fail status – all in about 12 seconds. Our fiber modules let you test more fibers in less time, cutting testing costs and freeing you up for other tasks. You can easily save more than 100 hours per year.



*Unlike competitive fiber adapters which measure length and **two** loss measurements per Autotest, DTX is the only fiber test solution that measures length and **four** loss measurements per Autotest – all in about 12 seconds. With DTX Fiber Modules you can speed through fiber testing five times faster than the competition.*

Test copper and fiber with a touch of a button

Only the DTX platform offers optional on-board fiber modules – so you'll never lose time searching for your fiber adapter. And fiber certification is always ready when you are. No other solution lets you switch between copper and fiber with a touch of a button.

Certify multimode and singlemode fiber

DTX fiber modules use LED and laser sources to ensure standards-compliant certification. Save, upload, manage, and print comprehensive certification reports using LinkWare PC software.

Deliver complete Tier 1 certification

Our comprehensive Tier 1 certification solution includes loss, length, and polarity measurements. You can validate fiber link performance and installation quality. Measure optical loss at multiple wavelengths. Measure fiber length and verify polarity. And bi-directionally test fibers at two wavelengths without swapping near and far-end units.

Find faults faster

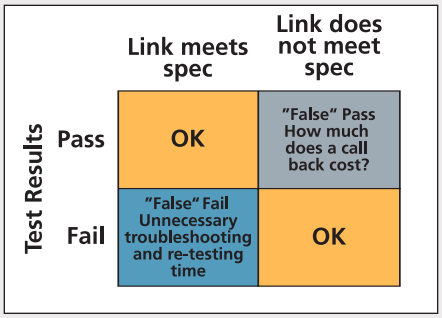
An integrated on-module visual fault locator (VFL) makes troubleshooting simple link problems fast and incredibly easy. The bright laser-driven VFL helps you locate many near-end fiber faults and can be used to verify continuity and polarity. Our exclusive integrated design ensures that the VFL is always on-hand when you need it.

900 MHz frequency for a future-proof investment

The top-of-the-line DTX CableAnalyzer – the DTX-1800 – supports testing up to 900 MHz. This extended bandwidth supports the ISO Class F links, as well as emerging standards like 10 Gigabit Ethernet over twisted-pair cabling. It also enables you to certify links for other applications, such as video distribution over twisted-pair cabling. No other tester on the market gives you this kind of future-proof investment while meeting current Cat 5e/6 specifications.

Accuracy every time, over time

The DTX Series testers are more accurate than any cable certification tester on the market today. Overall accuracy is a function of two critical factors: tester accuracy level – which assures that the tester delivers the correct PASS/FAIL results – and Permanent Link adapter technology, which is also a function of the quality and characteristics of the test adapters that interface to the link-under-test.



The cost of inaccuracy: *A tester showing incorrect Pass/Fail decision may cause a good link to fail (false fail) or a bad link to pass (false pass). Both of these false results cost you time and money.*

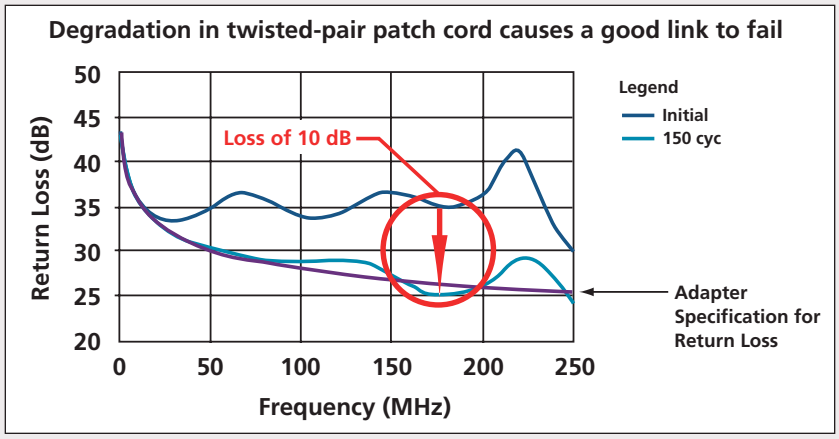
Tester accuracy exceeds Level IV

Until now, testers have been designed to meet accuracy Level III. The more demanding accuracy Level IV specification has been proposed in ISO/IEC (international standards) to test Class F links to 600 MHz. DTX testers exceed this new specification, assuring you of higher confidence in results over the full frequency range.

Permanent Link adapter technology eliminates false failures

Commercial patch cords – including Cat 5e/6 and Cat 7 – used in Permanent Link testing applications can cause costly false failures by failing a good link and adding unnecessary hours of troubleshooting and repeat testing. The daily wear associated with coiling, uncoiling, and storing patch cords under rough field conditions causes invisible degradation over time and contributes to Return Loss, which is often the cause of a FAIL.

At Fluke Networks, we put accuracy first. That's why we developed high-performance Permanent Link Adapters instead of using commercial patch cords. Our proprietary technology ensures superior accuracy and stability required for measuring Return Loss, while increasing the accuracy of all other measured test parameters – **not just accuracy one time, but accuracy every time – over time.**



As you can see in this graph, a commercial Cat 7 SSTP cord has a 10 dB loss after 150 cycles of coiling and uncoiling. This 10 dB degradation causes a good link to fail – and you end up with a false fail. This 10 dB of loss won't occur when you use Fluke Networks' Permanent Link adapter technology – with DTX you get repeatable accuracy you can count on.

FLUKE networks

Time is money. DTX saves you both.

The DTX CableAnalyzer Series delivers superior performance that can reduce your total certification costs by as much as 33% per year. This dramatic reduction is the result of not just faster testing, but also improved accuracy, superior diagnostics, longer battery life, simple user interface, and fast setup and reporting.

DTX – it's all about time.

DTX CableAnalyzer Series

Product Features	DTX-1800	DTX-1200	DTX-LT
Cat 6 Autotest time (seconds)	12	12	30
Maximum bandwidth (MHz)	900	350	350
Accuracy level	IV	IV	IV
Color display	•	•	•
Stores graphical results data	•	•	•
Internal memory capacity (graphical Cat 6)	250	250	250
Removable memory card interface Cat 6 graphical results for each of 16 MB multiple	300	300	n/a
Lithium ion batteries – battery life	12 hours	12 hours	12 hours
Advanced diagnostics	•	•	•
USB interface	•	•	•
Serial interface	•	•	n/a
Cat 6 permanent link adapter	•	•	•
Cat 6 channel adapter	•	•	option
Accepts resident fiber module	•	•	•
Start autotest at smart remote	•	•	•
Talk between main and smart remote	•	•	•
Standard Accessories			
Fiber Test Module (multimode or singlemode)	option	option	option
Cat 7 permanent link adapter	option	n/a	n/a
Cat 7 channel adapter	option	n/a	n/a
Multimedia memory card	•	option	n/a
USB cable	•	•	•
Serial computer interface cable	•	option	n/a
Talk headset	•	•	option
Carrying case	•	•	•

Note:
- **•** Feature or accessory is available in the standard product configuration.
- **n/a** The feature is not available; the accessory is not applicable.
- **option** The accessory can be purchased as an optional item.

The DTX Series future-proofs your investment giving you a clear and simple upgrade path from any of the models to any higher performance model, including the DTX-1800.

Experience the power of DTX.

We invite you to experience the unique capabilities of our DTX CableAnalyzer by taking a virtual test drive at **www.flukenetworks.com/DTXlive**.

Or in the U.S. and Canada, call us at **1-800-508-0490** and let a Fluke Networks Systems Engineer show you how DTX technology can work for you. Other countries, visit **www.flukenetworks.com/contact** for a sales organization near you. You can also sign up for a free half-day workshop covering the latest in testing and standards overview, DTX product demonstration, and hands-on operation. To find a workshop in your area, go to **www.flukenetworks.com/workshops.**

The DTX Series from Fluke Networks. The revolutionary platform that significantly reduces total time to certify – today and tomorrow.

Enhance your DTX tester with service, support, and training.

Register your DTX and receive a bonus gift. Plus access to our Technical Assistance Center (TAC) and extensive on-line Knowledge Base for fast answers. Register today at **www.flukenetworks.com/register**

Customer Support is easy with our NetworkSuperVision™ Gold Support. It ensures peace-of-mind with free annual calibration, free loaner units, 24/7 TAC support and special discounts on training and promotions. See **www.flukenetworks.com/goldsupport** for more information. Or contact your country sales organization for Gold program availability and pricing.

Train your installers at our one-day CCTT training and certification program. This BICSI-accredited course includes classroom training, hands-on labs, and exam certification exercises. Visit **www.flukenteworks.com/CCTT** for more information. Or contact the country sales organization nearest you for availability.

NETWORKSUPERVISION

Fluke Networks
P.O. Box 777, Everett, WA USA 98206-0777

Fluke Networks operates in more than 50 countries worldwide. To find your local office contact details, go to www.flukenetworks.com/contact.

©2004 Fluke Corporation. All rights reserved.
Printed in U.S.A. 3/2004 2131214 B-ENG-N Rev A

FLUKE networks

DTX CableAnalyzer™ Ordering Information

Model Name	Product Description
DTX-1800[1]	**DTX-1800 CableAnalyzer** – Includes DTX-1800 Main and Smart Remote, LinkWare PC Software, 16MB MMC Card, Cat 6/Class E Permanent Link Adapters (2), Cat 6/Class E Channel Adapters (2), Headsets for Talk (2), AC Chargers (2), Carrying Case, USB Interface Cable (Mini-B), Serial RS-232 Cable (IEEE 1394 to DB-9), User Manual
DTX-1200[1]	**DTX-1200 CableAnalyzer** – Includes DTX-1200 Main and Smart Remote, LinkWare PC Software, Cat 6/Class E Permanent Link Adapters (2), Cat 6/Class E Channel Adapters (2), Headsets for Talk (2), AC Chargers (2), Carrying Case, USB Interface Cable (Mini-B), User Manual
DTX-LT[1]	**DTX-LT CableAnalyzer** – Includes DTX-LT Main and Smart Remote, LinkWare PC Software, Cat 6/Class E Permanent Link Adapters (2), Cat 6/Class E Channel Adapter (1), AC Chargers (2), Carrying Case, USB Interface Cable (Mini-B), User Manual
DTX-MFM	**DTX Multimode Fiber Modules** – Includes two modules one for Main and one for Smart Remote, 850nm and 1300nm LED sources combined into single output port, 850/1300/1310/1550 nm power meter, and integrated VFL
DTX-SFM	**DTX Singlemode Fiber Modules** – Includes a set of two modules for Main and Smart Remote, 1310nm and 1550 nm laser sources combined into single output port, 850/1300/1310/1550 nm power meter and integrated VFL
DTX-1800-M	**DTX-1800 with Multimode Fiber Modules** – Includes DTX-1800 CableAnalyzer and a set of DTX-MFM Multimode Fiber Modules
DTX-1800-MS	**DTX-1800 with Multimode and Singlemode Fiber Modules** – Includes DTX-1800 CableAnalyzer and set of DTX-MFM Multimode Fiber Modules and DTX-SFM Singlemode Fiber Modules
DTX-1200-M	**DTX-1200 with Multimode Fiber Modules** – Includes DTX-1200 CableAnalyzer with set of DTX-MFM Multimode Fiber Modules
DTX-1200-MS	**DTX-1200 with Multimode and Singlemode Fiber Modules** – Includes DTX-1200 CableAnalyzer and set of DTX-MFM Multimode Fiber Modules and DTX-SFM Singlemode Fiber Modules
DTX-1800/SR	**DTX-1800 Smart Remote Add-on**
DTX-1200/SR	**DTX-1200 Smart Remote Add-on**
DTX-LT/SR	**DTX-LT Smart Remote Add-on**

Accessories and Options

Model Name	Product Description
DTX-CHA001	**Cat 6/Class E Channel Adapter**
DTX-CHA001S	**Cat 6/Class E Channel Adapters, set of 2**
DTX-PLA001	**Universal Permanent Link Adapter** (1)
DTX-PLA001S	**Universal Permanent Link Adapters** (2) with DSP-PM06
DSP-PM06	**Cat 6 Centered Personality Module, set of 2**
DSP-PMxx	**Personality Modules for IDC and Legacy Cabling Systems** A wide variety of modules are available for IDC-type connectors and legacy systems
DTX-CHA011	**Siemon Tera Channel Adapter** (available Q3 2004)
DTX-PLA011	**Siemon Tera Permanent Link Adapter** (available Q3 2004)
DTX-TERA	**Siemon Tera Adapter Kit** (available Q3 2004) – Includes Tera Channel Adapters (2) and Tera Permanent Link Adapters (2)
DTX-CHA012	**Nexans GG45 Channel Adapter** (available Q4 2004)
DTX-PLA012	**Nexans GG45 Permanent Link Adapter** (available Q4 2004)
DTX-GG45	**Nexans GG45 Adapter Kit** (available Q4 2004) – Includes GG45 Channel Adapters (2) and GG45 Permanent Link Adapters (2)
DTX-LION	**Lithium Ion Battery Pack**
DTX-SER	**Serial RS-232 Cable** (IEEE 1394 to DB-9)
DSP-MCR-U	**MultiMedia Card (MMC) Reader**, USB
LinkWare	**LinkWare Cable Test Management Software** – Free download at www.flukenetworks.com/linkware
LinkWare-Stats	**LinkWare Stats Statistical Report Option** – Results analysis software option for LinkWare
DTX-1218E	**DTX-1200 Enhancement Kit:** Upgrade DTX-1200 to DTX-1800
DTX-LT18E	**DTX-LT Enhancement Kit:** Upgrade DTX-LT to DTX-1800
DTX-LT12E	**DTX-LT Enhancement Kit:** Upgrade DTX-LT to DTX-1200

Support Options

Model Name	Product Description
GLD-DTX	**DTX Gold Support** – Includes no charge repair, Loaner kit, no charge scheduled annual calibration or performance verification, no charge replacement of accessories[2], no charge software or firmware upgrades, unlimited 7x24 multilingual technical support, unlimited access to KnowledgeBase and on-line training, 20% discount on all in-person or on-site training programs, priority access to the used equipment list, and members only discounts on select products and enhancements
GLD-DTX-FIBERMOD	**DTX Fiber Module Gold Support** – As above

[1] Available in 120V and International (120-240V) versions. 120V version includes English users manual. International version includes multi-language pack users manual.
[2] This includes up to one pair of interface adapters and one pair of personality modules per year

FLUKE networks

DTX CableAnalyzer™ Series Specifications

Cable Types	
Shielded and unshielded twisted pair LAN cabling: (STP, FTP, SSTP, and UTP) ***Note:*** *For availability of additional adapters that allow testing to other performance standards, different cabling types, or fiber optic cabling, contact Fluke Networks.*	TIA Category 3, 4, 5, 5e, and 6: 100 Ω ISO/IEC Class C and D: 100 Ω and 120 Ω ISO/IEC Class E, 100 Ω ISO/IEC Class F, 100 Ω
Standard Link Interface Adapters	
Cat 6/Class E permanent link adapters	Plug type: shielded Cat 6 centered 8-pin modular plug (RJ45) Plug life: > 5000 insertions Tests supported: shielded and unshielded cable, TIA Cat 3, 4, 5, 5e, and 6 and ISO/IEC Class C, D and E permanent link
Cat 6/Class E channel adapters	Plug type: shielded 8-pin modular socket (RJ45) Plug life: >10,000 insertions Tests supported: shielded and unshielded cable, TIA Cat 3, 4, 5, 5e, and 6 and ISO/IEC Class C, D and E channels
Test Standards	
TIA	Category 3 and Category 5e per TIA/EIA-568B Category 5 (1000BASE-T) per TIA TSB-95 Category 6 per TIA/EIA-568B.2-1 (Addendum #1 to TIA/EIA-568B.2)
ISO/IEC	11801 Class C, D and E 11801-2000 Class C, D and E 11801 Class F (DTX-1800 only)
EN	50173 Class C, D ,E 50173 Class F (DTX-1800 only)
ANSI	TP-PMD
IEEE 802.3	10BASE-T, 100BASE-TX, 1000BASE-T
IEEE 802.5	(STP cabling, IBM Type 1, 150 Ω) Token Ring, 4 Mbps and 16 Mbps
General Specifications	
Speed of Autotest	Full 2-way Autotest of Category 6 Twisted-Pair links: **12 seconds or less** Full 2-way Autotest of ISO/IEC Class F links: **30 seconds**
Supported test parameters *The selected test standard determines the test parameters and the frequency range of the tests*	Wire Map, Length, Propagation Delay, Delay Skew, DC Loop Resistance, Insertion Loss (Attenuation), Return Loss (RL), RL @ Remote, NEXT, NEXT @ Remote, Attenuation-to-Crosstalk Ratio (ACR), ACR @ Remote, ELFEXT, ELFEXT @ Remote, Power Sum ELFEXT, PSELFEXT @ Remote, Power Sum NEXT, PSNEXT @ Remote, Power Sum ACR, PSACR @ Remote
Cable tone generator	Generates tones that can be detected by a tone probe such as a Fluke Networks IntelliTone™ probe. The tones are generated on all pairs. Frequency range of tones: 440 Hz to 831 Hz
Display	3.7 in (9.4 cm) diagonal, 240 dots wide by 320 dots high, passive color, transmissive LCD with backlight.
Input protection	Protected against continuous telco voltages and 100 mA over-current. Occasional ISDN over-voltages will not cause damage
Case	High impact plastic with shock absorbing overmold
Dimensions	Main unit and Smart Remote: 8.5 in x 4.4 in x 2.4 in (21.6 cm x 11.2 cm x 6 cm), nominal
Weight	2.4 lb (1.1 kg), nominal (without adapter or module)
Power	
Main unit and remote:	Lithium-ion battery pack, 7.4 V, 4000 mAh
Typical battery life:	12 to 14 hours
Charge time* (with tester off):	4 hours (below 40° C)
AC adapter/charger, USA version:	Linear power supply; Input 108 V ac to 132 V ac, 60 Hz ; Output 15 V dc, 1.2 A
AC adapter/charger, international version:	Switching power supply; Input 90 V ac to 264 V ac, 47 to 63 Hz; Output 15 V dc, 1.2 A (isolated output)
Memory backup power in main unit:	Lithium battery
Typical life of lithium battery:	5 years
Languages supported	English, French, German, Spanish, Portuguese, Italian, Japanese, and Simplified Chinese
Calibration	Service center calibration period is 1 year

* The battery will not charge at temperatures outside of 0° C to 45° C (32° F to 113° F). The battery charges at a reduced rate between 40° C and 45° C (104° F and 113° F).

Environmental Specifications		
Operating temperature	32° F to 104° F (0° C to 45° C)	
Storage temperature	-4° F to +140° F (-20° C to +60° C)	
Operating relative humidity (% RH without condensation)	32° F to 95° F (0° C to 35° C): 0 % to 90 % 95° F to 113° F (35° C to 45° C): 0 % to 70 %	
Vibration	Random, 2 g, 5 Hz -500 Hz	
Shock	1 m drop test with and without module and adapter attached	
Safety	CSA C22.2 No. 1010.1: 1992 EN 61010-1 1st Edition + Amendments 1, 2	
Pollution degree	Pollution Degree 2 as defined in IEC 60664 and applied to IEC 60950 'Safety of Information Technology Equipment, 1999'	
Altitude	Operating: 4000 m; Storage: 12000 m	
EMC	EN 61326-1	
Performance Specifications**		
Baseline accuracy	The baseline accuracy of all DTX Series testers meets or exceeds the requirements of Level IV as in draft 2nd Edition of IEC 61935-1 over the frequency range supported by the tester.	
Category 6/Class E link test modes (and lower link categories)	DTX CableAnalyzer far exceeds Level III requirements of TIA/EIA-568-B.2-2 and IEC 61935-1.	
Class F link test modes	DTX-1800 is compliant with Level IV requirements as in the draft 2nd edition of IEC 61935-1.	
Length for Twisted Pair Cabling†		
Parameter	Single-ended Test	Dual-ended Test (Main and Remote)
Range	800 m (2600 ft)	150 m (490 ft)
Resolution	0.1 m or 1 ft	0.1 m or 1 ft
Accuracy	± (.3 m + 2%); for lengths 0 to 150 m ± (.3 m + 4%); for lengths 151 to 800 m	± (.3 m + 2%)
Propagation Delay		
Parameter	Single-ended Test	Dual-ended Test (Main and Remote)
Range	4000 ns	750 ns
Resolution	1 ns	1 ns
Accuracy	± (2 ns + 2%); 0 to 750 ns ± (2 ns + 4%); 751 to 4000 ns	± (2 ns + 2%)
Delay Skew		
Parameter	Twisted Pair Cabling	
Range	0 ns to 100 ns	
Resolution	1 ns	
Accuracy	± 10 ns	
DC Loop Resistance Test		
Parameter	Twisted Pair Cabling	
Range	0 Ω to 53 Ω	
Resolution	0.1 Ω	
Accuracy	± (1 Ω + 1%)	
Overload recovery time	Less than 10 minutes to rated accuracy following over-voltage. Referencing is required after repeated or prolonged over-voltage.	

** Note: all specifications for tests on twisted-pair cabling apply to 100 Ω cable. Contact Fluke Networks for information on measurement performance for cable with a different impedance.
† Length specs do not include the uncertainty of the cable's NVP Value
Above specifications are subject to change without notice.

NETWORKSUPERVISION

Fluke Corporation
P.O. Box 777, Everett, WA USA 98206-0777

Fluke Networks operates in more than 50 countries worldwide. To find your local office contact details, go to **www.flukenetworks.com/contact**.

©2004 Fluke Corporation. All rights reserved.
Printed in U.S.A. 6/2004 2131195 B-ENG-N Rev B